

REMARKS

Claims 1-12 are pending in this application. Applicants respectfully traverse the Examiner's rejections. In view of the remarks contained herein, Applicants respectfully request reconsideration of the claims.

I. REJECTIONS UNDER 35 U.S.C. § 102

Claims 1, 3, 6, and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Publication No. 2002/0074598 A1 to Doyle et al. (hereinafter "*Doyle*").

To anticipate a claim under 35 U.S.C. § 102, a reference must teach every element of the claim. *See Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Id.* Moreover, "[t]he identical invention must be shown in as complete detail as is contained in the . . . claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989).

In response to Applicant's previous remarks, the Examiner states:

Applicants argue that figure 17 of the reference does not show impurities implanted in the substrate, rather it shows a void 142. The "void" shown in that figure, is not a "void", per se, rather it is an impurity region in the substrate. See, for example, paragraph 36 of the Doyle reference. Office Action, p. 5.

Applicants respectfully disagree with the Examiner. The Examiner's point is taken that paragraph [0036] describes implanting a substance into the substrate. However, void 142, as shown in *Doyle*'s Figure 17, is, in fact, a void and not an impurity region. *Doyle* describes implanting impurities into the substrate. The substrate is then annealed, which causes the implanted impurities to migrate or diffuse out of the substrate, leaving a simple void. *Doyle*, para. [0034]. Therefore, the impurities implanted by the *Doyle* invention are temporarily

resident within the substrate and do not correspond to an “impurity region,” as required by claim

1. *Doyle*, therefore, does not teach or even suggest each and every limitation of claim 1.

Accordingly, claim 1 is allowable for at least the reasons discussed above. Applicants, therefore, respectfully request that the rejection of claim 1 be withdrawn.

Claims 3, 6, and 7 depend from claim 1 and inherit all of the limitations of claim 1.

Accordingly, claims 3, 6, and 7 are allowable for at least the reasons discussed above.

Applicants, therefore, respectfully request that the rejections of claims 1, 3, 6, and 7 likewise be withdrawn.

II. REJECTIONS UNDER 35 U.S.C. § 103

In *Graham v. John Deere Co. of Kansas City*, the Supreme Court set out a framework for applying the statutory language of §103. 383 U.S. 1 (1966). The Court stated:

Under 35 U.S.C. §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. *Id.*, at 17–18.

The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. *KSR Int’l Co., v. Teleflex, Inc.*, 550 U.S. ____ (2007).

Patents for obvious combinations must generally be disallowed because a “patent for a combination which only unites old elements with no change in their respective functions . . . obviously withdraws what is already known into the field of its monopoly and diminishes the

resources available to skillful men.” *Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp.*, 340 U. S. 147, 152 (1950). However, when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious. *United States v. Adams*, 383 U. S. 39, 51-52 (1966). Moreover, no holding or doctrine diminishes the necessity of the combined teachings or obvious elements teaching or suggesting each and every limitation of the claimed invention.

A. Claim 2

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Doyle* in view of U.S. Patent No. 4,069,094 to Shaw et al. (hereinafter “*Shaw*”).

The Examiner admits that *Doyle* does not teach the semiconductor region is monocrystalline silicon, and offers *Shaw* to cure this deficiency. However, claim 2 depends from claim 1 and inherits all of the limitations of claim 1. As noted above, *Doyle* does not teach an “impurity region,” as required by claim 1. The Examiner does not offer *Shaw* to show this limitation, nor does *Shaw* teach or even suggest such a limitation. Accordingly, claim 2 is allowable for at least the reasons discussed above. Applicants, therefore, respectfully request that the rejection of claim 2 likewise be withdrawn.

B. Claims 4 and 5

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Doyle*.

The Examiner admits that *Doyle* does not teach the relative distances of the impurity region from the surface of the semiconductor or that silicon dioxide is used in the gate dielectric, but asserts that these limitations would be obvious to one of ordinary skill in the art. However, claims 4 and 5 depend from claim 1 and inherit all of the limitations of claim 1. As noted above, *Doyle* does not teach an “impurity region,” as required by claim 1. Accordingly, claims 4 and 5

are allowable for at least the reasons discussed above. Applicants, therefore, respectfully request that the rejections of claim 4 and 5 likewise be withdrawn.

C. Claims 8 and 9-12

Claims 8 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Doyle* in view of U.S. Patent No. 6,759,717 to Sagarwala et al. (hereinafter “*Sagarwala*”).

The Examiner admits that *Doyle* does not disclose sidewall spacers for the gate of the device and lightly doped portions of the source/drain region nor does it disclose a second transistor. The Examiner offers *Sagarwala* to cure this deficiency. However, claims 8 and 9-12 depend from claim 1 and inherit all of the limitations of claim 1. As noted above, *Doyle* does not teach an “impurity region,” as required by claim 1. The Examiner does not offer *Sagarwala* to show this limitation, nor does *Sagarwala* teach or even suggest such a limitation. Accordingly, claims 8 and 9-12 are allowable for at least the reasons discussed above. Applicants, therefore, respectfully request that the rejections of claim 8 and 9-12 likewise be withdrawn.

Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Thomas J. Meaney, Applicants' attorney, at 972-732-1001, so that such issues may be resolved as expeditiously as possible. No fee is believed due in connection with this filing. However, should one be deemed due, the Commissioner is hereby authorized to charge Deposit Account No. 50-1065.

Respectfully submitted,

7/5/2007
Date

/Thomas J. Meaney/
Thomas J. Meaney
Attorney for Applicants
Reg. No. 41,990

Slater & Matsil, L.L.P.
17950 Preston Rd., Suite 1000
Dallas, Texas 75252-5793
Tel. 972-732-1001
Fax: 972-732-9218